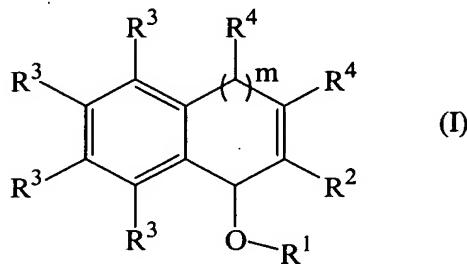


## The Claims

What is claimed is:

5 1. A process for making a compound of formula



wherein m is 0, 1 or 2;

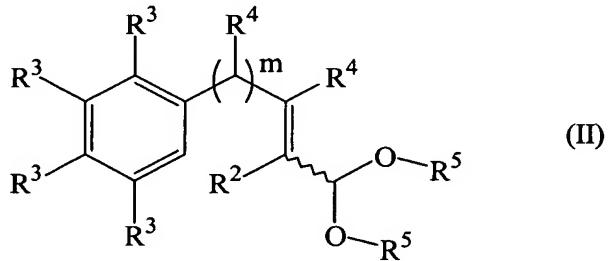
10  $R^1$  represents a formyl group, a -COCOOH group or a group of formula  $-(CO)_n-R-T$ , in which n is 0 or 1, R is a  $C_6H_4$  group,  $C_{1-5}$  alkanediyl or alkenediyl group and T is OH, COOH or a hydrogen atom;

15  $R^2$  represents a  $C_{1-6}$  alkyl or alkenyl group;

at least one  $R^3$  represents a hydrogen atom and the other  $R^3$  represent each a hydrogen atom or a  $C_{1-5}$  alkyl, alkenyl or alkoxy group; and

20  $R^4$  represents a hydrogen atom, a phenyl group or a  $R^2$  group;

comprising the cyclization, at a temperature above  $10^\circ C$ , of the corresponding compound of formula



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wherein each  $R^5$ , taken separately, represents a formyl group or a  $-(CO)_n-R-H$  group, or the  $R^5$ , taken together, represent a  $-(CO)_n-R-(CO)_n-$  group or a -COCO- group;

the wavy line indicates that the configuration of the carbon-carbon double bond is E or Z or a mixture thereof; and

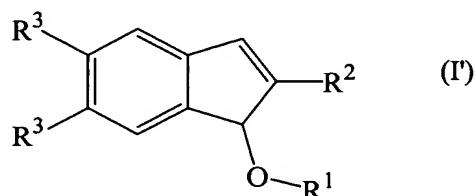
m, n, R, R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> have the meaning as indicated above;  
in the presence of a catalyst selected from the group consisting of strong mineral protic acids, sulphonic acids, acidic zeolites and Lewis acids.

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2. A process according to claim 1, wherein m is 0 or 1.

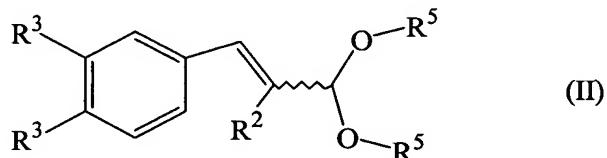
3. A process according to claim 1, wherein the compounds of formula (I) are of formula

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and are obtained by cyclization of the corresponding compounds of formula

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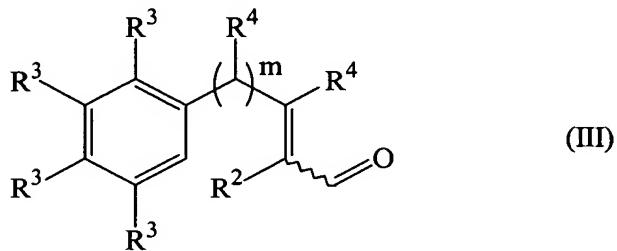
wherein R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup> and R<sup>5</sup> have the same meaning as in claim 1.

4. A process according to claim 1, wherein the catalyst is selected from the group consisting of H<sub>2</sub>SO<sub>4</sub>, p-toluenesulphonic acid, NaHSO<sub>4</sub>, KHSO<sub>4</sub>, H<sub>3</sub>PO<sub>4</sub>, HCl, 20 HNO<sub>3</sub>, and BF<sub>3</sub> and its adducts with C<sub>2-6</sub> ethers or with C<sub>2-6</sub> carboxylic acids, poly(styrene sulphonic acid) based resins, K-10 Clay, SnX<sub>4</sub>, FeX<sub>3</sub> and ZnX<sub>2</sub>, X representing a halogen atom, a C<sub>1-6</sub> carboxylate, or a C<sub>1-7</sub> sulphonate.

5. A process according to claim 4, wherein the catalyst is H<sub>3</sub>PO<sub>4</sub>, FeX<sub>3</sub> or 25 ZnX<sub>2</sub>, X having the same meaning as in claim 4.

6. A process according to claim 1, characterized in that it further comprises the step of generating *in situ* the compound of formula (II) starting from the corresponding enal of formula

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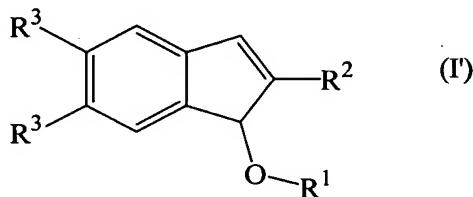


wherein  $R^2$ ,  $R^3$ ,  $R^4$  and  $R^5$  have the same meaning as indicated in claim 1.

7. A process according to claim 6, wherein the compound of formula (II) is an  
10 acetal or an acylal.

8. A compound of formula

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wherein one  $R^3$  is a hydrogen atom and the other  $R^3$  is a  $C_{1-5}$  alkyl group, which  $n$  is 0 or 1,  $R$  is a  $C_6H_4$  group,  $C_{1-5}$  alkanediyl or alkenediyl group and  $T$  is  $OH$ ,  $COOH$  or a hydrogen atom; and

$R^2$  represents a  $C_{1-6}$  alkyl or alkenyl group.

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9. A compound according to claim 8, wherein the compound is the 2-methyl, the 2,5-dimethyl or the 2,6-dimethyl derivative of compound of formula I.

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